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T/N # 5620
09/403882

PCT/US99/07847

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
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in its capacity as elected Office

Date of mailing (day/month/year)

22 December 1999 (22.12.99)

International application No.

PCT/US99/07847

Applicant's or agent's file reference

09978/003W01

International filing date (day/month/year)

08 April 1999 (08.04.99)

Priority date (day/month/year)

08 April 1998 (08.04.98)

Applicant

FARINAS, Javier

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

08 November 1999 (08.11.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



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made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : G01N 33/53, 33/567, C07K 16/00		(11) International Publication Number: WO 99/51986
A1		(43) International Publication Date: 14 October 1999 (14.10.99)
(21) International Application Number: PCT/US99/07847 (22) International Filing Date: 8 April 1999 (08.04.99) (30) Priority Data: 60/081,118 8 April 1998 (08.04.98) US 60/081,340 9 April 1998 (09.04.98) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Applications US 60/081,340 (CIP) Filed on 9 April 1998 (09.04.98) US 60/081,118 (CIP) Filed on 8 April 1998 (08.04.98) (71) Applicant (for all designated States except US): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 5th floor, 1111 Franklin Street, Oakland, CA 94607-5200 (US). (72) Inventor; and (75) Inventor/Applicant (for US only): FARINAS, Javier [US/US]; 75 Coronado Avenue, San Carlos, CA 94070 (US).		(74) Agent: HAILE, Lisa, A.; Fish & Richardson P.C., Suite 1400, 4225 Executive Drive, La Jolla, CA 92037 (US). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: METHODS AND REAGENTS FOR TARGETING ORGANIC COMPOUNDS TO SELECTED CELLULAR LOCATIONS		
(57) Abstract <p>The present invention provides methods and reagents for targeting probes to selected cellular locations, through the expression of specific binding partners to that probe within the cell. In one embodiment, the probes may comprise spectroscopic probes that can be used in a method for localizing a specific binding partner within a cell, and for creating assays for post-translational activities. The invention allows the monitoring of the location of such intracellular specific binding partners over time and in response to stimuli, such as test chemicals. The spectroscopic probes can be used for screening a test chemical for activity. The present invention also includes cells and transgenic organisms comprising the intracellular specific binding partner, wherein the specific binding partner can bind with the spectroscopic probe/ligand conjugate.</p>		

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US99/07847

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) : G01N 33/53, 33/567; C07K 16/00

US-CL : 435/7.1, 7.2, 7.21, 69.7; 530/387.1, 388.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 435/7.1, 7.2, 7.21, 69.7; 530/387.1, 388.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Please See Extra Sheet.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	RICHARDSON et al. Phenotypic knockout of the high-affinity human interleukin 2 receptor by intracellular single-chain antibodies against the α subunit of the receptor. Proc. Natl. Acad. Sci. USA. April 1995, Vol. 92, pages 3137-3141, especially Abstract.	1-3, 8-14
Y	YUAN et al. Intracellular single-chain antibody inhibits integrin VLA-4 maturation and function. Biochem. J. 1996, Vol. 318, pages 591-596, see entire document.	1-3, 8-14
Y	US 5,561,049 A (VOLD ET AL) 01 October 1996, see entire document, especially columns 5 and 6.	11

☒ Further documents are listed in the continuation of Box C.
 ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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Date of the actual completion of the international search

15 JULY 1999

Date of mailing of the international search report

12 AUG 1999

 Name and mailing address of the ISA/US
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MARIANNE DIBRINO

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/07847

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,618,827 A (REDINGTON ET AL) 21 October 1986, see entire document.	9
Y	US 5,703,369 A (MORI ET AL) 30 December 1997, see entire document.	10
Y	US 5,328,984 A (PASTAN ET AL) 12 July 1994, see entire document.	7
Y	US 5,602,095 A (PASTAN ET AL) 11 February 1997, see entire document, especially column 2, lines 21-23.	8

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/07847

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 5 and 6
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Claims 5 and 6 recite SEQ ID NOS. No Biotech Data has been timely submitted by applicant.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-18

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/07847

B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

APS, STN, embase, biosis, medline, Single chain antibody, single chain immunoglobulin, fusion immunoglobulin, fusion protein, cell surface antibody, facs, fluorescence activated cell sort, probe, ligand, localize, fluorescent, spectroscopic probe, hybridoma, probe, farinas

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claims 1-18, drawn to a method for localizing a probe.

Group II, claims 19-35, drawn to a method for detecting a post-translational activity in a cell.

Group III, claims 36-39, drawn to an expression vector containing nucleic acid sequences encoding a specific binding partner fused to a protein of interest.

Group IV, claims 40-43, drawn to an expression vector containing nucleic acid sequences encoding a specific binding partner fused to a protein of interest and a second protein moiety.

Group V, claims 44-50, drawn to a host cell transfected with an expression vector.

Group VI, claim 51, drawn to a transgenic non-human animal characterized by expression of the nucleic acid sequence with substantial identity to SEQ ID NO: 1.

Group VII, claim 52-58, drawn to a method of screening a test chemical for activity.

Group VIII, claim 59, drawn to a plurality of cells.

Group IX, claims 60 and 63 drawn to a method for localizing a probe.

Group X, claims 61 and 63 drawn to a method for detecting a post-translational activity in a cell.

Group XI, claims 62-63, drawn to a method of screening a text chemical for activity.

The inventions listed as Groups I-XI do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The putative special technical feature linking Groups I-XI appears to be the expression vector of Group III. However, U.S. Patent No. 5,608,039 teaches the expression vector of Group III. The 5,608,039 patent teaches expression vectors encoding single chain antibody fusion proteins (see entire document, especially Summary of the Invention and Fig. 1). It would be obvious to link a fluorescent protein moiety to the protein of interest. Therefore, the technical feature linking the inventions of Groups I-XI does not constitute a special technical feature as defined by PCT Rule 13.2, as it does not define a contribution over the prior art.

Applicant is advised that a CRF has not been received by the International Searching Authority. Absent a CRF those claims reciting a SEQ ID No: or dependent therefrom may be unsearchable.

Applicant should submit a CRF via private courier or hand delivery to:
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of the CRF.